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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,536	09/09/2005	Yoshihito Fukushima	267655US6PCT	7167
22850	7590	08/28/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER HEYI, HENOK G	
			ART UNIT 2627	PAPER NUMBER
			NOTIFICATION DATE 08/28/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/534,536	Applicant(s) FUKUSHIMA ET AL.	
	Examiner HENOK G. HEYI	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/12/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

2. Claims 6-13 and 20-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-5 and 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 3, 16 and 17 are directed to a disk substrate alone. But as recited in the body of the claims, the interval between the grooves is selected in accordance with an optical system of a mechanical characteristic measuring apparatus. It is not clear how this can be done by the substrate alone. The recited limitations like "the mechanical characteristics measuring apparatus" are not clear.

Claims 4, 5, 18 and 19 are directed to an interval between grooves selected so as to have a value in a range from 0.01 times or more to 0.25 times or less of a repetition interval of said groove area or said mirror area. One thing which is not clear in this

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limitation is how is the interval between grooves is 0.01 time or more to 0.25 time or less of the interval between said grooves. The claim language is unclear and needs to be clarified.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 14, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita et al. 5,933,397 (Yamashita hereinafter).

Regarding claim 1, Yamashita teaches a disc substrate having an eccentricity measuring area (eccentricity memory such as a RAM or the like in which sine values using a rotational angle of a predetermined resolution as an address have previously been stored is prepared, col 2 lines 39-42) in which a groove area formed with spiral grooves and a planer mirror area are spatially alternately arranged (FIG. 26 is an explanatory diagram of the medium surface having a mirror portion. With respect to the ID portion 268 and MO portion 270, a groove 298 is formed every track. With respect to the ID portion 268, a pit 302 comprising an emboss is formed in a region sandwiched by the grooves 298. However, a mirror portion 300 having a flat mirror surface exists between them, col 30 lines 45-51).

Regarding claim 2, Yamashita teaches a disc substrate according to claim 1, wherein an interval between the grooves in said groove area is selected in accordance with an optical system of a mechanical characteristics measuring apparatus which is used to measure an eccentricity amount and a fluctuation of a push-pull signal at one end and the other end of said groove formed spirally in said groove area (an interval of ID portions in the medium is measured from a signal indicative of the existence of a pit, col 11 lines 47-50).

Regarding claim 14, Yamashita teaches an optical disc comprising: a disc substrate having an eccentricity measuring area (eccentricity memory such as a RAM or the like in which sine values using a rotational angle of a predetermined resolution as an address have previously been stored is prepared, col 2 lines 39-42) in which a groove area formed with spiral grooves and a planer mirror area are spatially alternately arranged (FIG. 26 is an explanatory diagram of the medium surface having a mirror portion. With respect to the ID portion 268 and MO portion 270, a groove 298 is formed every track. With respect to the ID portion 268, a pit 302 comprising an emboss is formed in a region sandwiched by the grooves 298. However, a mirror portion 300 having a flat mirror surface exists between them, Col 30 lines 45-51); an information signal portion formed on one principal plane of said disc substrate; and a protective layer for protecting said information signal portion (Figs. 17 A-C).

Regarding claim 15, Yamashita teaches an optical disc according to claim 14, wherein said protective layer has light transmittance and recording and/or reproduction of an information signal are/is executed by irradiating a laser beam from the side where

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said protective layer is provided (the optical unit records and reproduces information to/from the tracks of the medium by using a light beam, col 4 lines 6-8).

Regarding claim 16, Yamashita teaches an optical disc according to claim 14, wherein an interval between the grooves in said groove area is selected in accordance with an optical system of a mechanical characteristics measuring apparatus which is used to measure an eccentricity amount and a fluctuation of a push-pull signal at one end and the other end of said groove formed spirally in said groove area (an interval of ID portions in the medium is measured from a signal indicative of the existence of a pit, col 11 lines 47-50).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. 5,933,397 (Yamashita hereinafter) in view of Takemura et al. US 2002/0131360 A1 (Takemura hereinafter).

Regarding claims 3 and 17, Yamashita teaches a disc substrate according to claim 2, but Yamashita fails to teach that a width of said groove area and a width of said mirror area are selected in accordance with the optical system of said mechanical

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characteristics measuring apparatus which is used to measure the eccentricity amount. However, Takemura teaches that the size (width in the radial direction) of the mirror zone is smaller than the minimum amount of the eccentricity, the laser beam from the drive necessarily crosses the pit array in the read-only area or the groove in the rewritable area during one rotation of the disk. The allowance of the eccentricity amount for a normal disk is about $\pm .50 \mu\text{m}$ at maximum. Therefore, in consideration of the minimum amount of the eccentricity, the width of the mirror zone in the radial direction may be about $5 \mu\text{m}$. The mirror zone with this width corresponds to 2 to 8 tracks when calculated with the above track pitch (see para [0106]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the width of the groove and mirror area based on the eccentricity amount. The modification would have been obvious because of the benefit of selecting the width of groove and mirror areas based on the mechanical characteristics measuring apparatus in achieving minimum amount of eccentricity as taught by Takemura.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art
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/Henok G Heyi/
Examiner, Art Unit 2627